

## Course Syllabus

1	Course title	Hatvhery management	
2	Course number	0602914	
3	Credit hours	3	
	Contact hours (theory, practical)	2, 1	
4	Prerequisites/corequisites	Poultry production	
5	Program title	Ph.D in Animal Production	
6	Program code	2	
7	Awarding institution	The University of Jordan	
8	School	School of Agriculture	
9	Department	Animal Production Department	
10	Course level	Ph.D	
11	Year of study and semester (s)	2020/2021, 1 <sup>st</sup> semester	
12	Other department (s) involved in teaching the course	non	
13	Main teaching language	English	
14	Delivery method	<input checked="" type="checkbox"/> Face to face learning <input type="checkbox"/> Blended <input type="checkbox"/> Fully online	
15	Online platforms(s)	<input checked="" type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others.....	
16	Issuing/Revision Date	8/11/2021	

### 17 Course Coordinator:

Name: Prof. Hana Zakaria

Contact hours:12.30-3.30, Wednesday

Office number: 158

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### 18 Other instructors: No

## 19 Course Description:

As stated in the approved study plan: This course will deal with advanced information about the design of incubators, essentials of incubation, the development of embryos chick, multi stage and single stage, chick quality, chick transport, disposal of hatching and biosecurity., hatchery records and diseases.

## 20 Course aims and outcomes:

### A- Aims:

1. General introduction to hatchery designs
2. Introduce students to the biology of the embryo and the development after fertilization.
3. Provide students with an overview of the essentials factors important for the incubators.
4. To develop knowledge of incubation and hatchery management multi stage verses single stage.
5. Acquire knowledge of environment (ventilation, temperature, relative humidity, etc...).
6. Washed and unwashed eggs and dispatch7.
7. Biosecurity and disinfections

### B- Students Learning Outcomes (SLOs):

Upon successful completion of this course, students will be able to:

Program SLOs SLOs of the course	SLO (1)	SLO (2)	SLO (3)	SLO (4)
1. Knowledge and Understanding	Student has a comprehensive overview of hatcheries	Student understands emphasis on essential factors related to incubation	Student understands procedures and practices involved in incubation and hatching of chicks.	– Student learns about egg transfer from the farm to the hatchery
2 Intellectual Analytical and Cognitive Skills	Student is able to establish a connection between fertilization	Student fully comprehends all steps involved in producing a good quality chick	Student will have developed a basic knowledge of requirements of hatchery, incubation and producing good quality chick.	Student understands the importance of hatchery records.
3 Subject-Specific Skills	Students will be able to compare multistage com to single stage	Student can design a hatchery with all its equipments	Student can recommend how to run a hatchery	Student fully understands steps involved in operation and management of a hatchery.
4 Transferable Key Skills	Student can transfer all the knowledge and basic concepts learned into producing and/or	Have the ability to work at a hatchery based on knowledge gained	Have the knowledge about diseases in hatchery and important biosecurity	Know what problems occurred to get low hatchability

	managing a commercial hatchery and incubator			
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## 21. Topic Outline and Schedule:

Week	Lecture	Topic	Intended Learning Outcome	Learning Methods (Face to Face/Blended/ Fully Online)	Platform	Synchronous/ Asynchronous Lecturing	Evaluation Methods	Resources
1	1.1	Design of incubators, hatcheries and hatchery rooms	1	Face to face		synchronous		Different articles
	1.2	incubation	1	Face to face		synchronous	participation	
2	2.1	Fertilization	2	Face to face		synchronous	participation	
	2.2	Embryonic development factors affecting hatchability	2	Face to face		synchronous	Participation	
	2.3	Reproductive systems	2	Face to face		synchronous	Participation	On line sources
Week	Lecture	Topic	Intended Learning Outcome	Learning Methods(Face to Face/Blended/ Fully Online)	Platform	Synchronous/ Asynchronous Lecturing	Evaluation Methods	Resources
3	3.1	Setting of hatching eggs	1,3	Face to face		synchronous	discussion	articles
	3.2	Storage conditions	1.3	Face to face		synchronous	discussion	
	3.3	Pre-storage	1.3	Face to		synchronous	participation	

		incubation		face					
4	4.1	Multi stage and single stage	4,3	Face to face		synchronous	participation	articles	
	4.2	candling	4.2	Face to face		synchronous	participation		
	4.3	Chick quality	4.2				Mid term exam		
5	5.1	Egg transfer	1.3.4	Face to face		synchronous		Different text books	
	5.2	Washed and unwashed eggs	1.3.4	Face to face		synchronous	participation		
	5.3	dispatch	1.3.4	Face to face		synchronous	discussion		
6	6.1	Welfare and transport	1.4.7	Face to face		synchronous	participation	Text books	
	6.2	Hatchery wastes	1.4.7	Face to face		synchronous	Term papers		
	6.3	Biosecurity	1.4.7	Face to face		synchronous			
7	7.1	Records and trouble shootings		Face to face		synchronous	discussion		
	7.2	What went wrong	1.2.3.4 .5.6.7	Face to face		synchronous	participations		
	7.3	Early feeding of chicks	1,2,3,4	Face to face		synchronous	participation		
8	8.1	Term papers		Face to		synchronous	Discussion		

		discussion		face				
	8.2	Term papers discussion		Face to face		synchronous	participation	
	8.3	Term paper discussion		Face to face		synchronous	participation	
9	9.1	Presentation for each student on any of the subjects		Face to face		synchronous	participation	
	9.2	Presentation for each student on any of the subjects		Face to face		synchronous	participation	
	9.3	Presentation for each student on any of the subjects		Face to face		synchronous	participation	

## 22 Evaluation Methods:

Opportunities to demonstrate achievement of the SLOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	SLOs	Period (Week)	Platform
Discussion and participations on the different subjects	10			3rd	Face to face
Exam	30		1,2,3,4	5 <sup>th</sup> week	Face to face
Presentations on the different covered subjects	20		1,2,3,4	8 <sup>th</sup> week	Face to face
Final Exam	40		1,2,3,4	15 week	Face to face



**(e.g: students should have a computer, internet connection, webcam, account on a specific software/platform...etc):**

**24 Course Policies:**

A- Attendance policies:

B- Absences from exams and submitting assignments on time: attendance is obligatory, more than 15% absence student will be forbidden from attending the final exam

C- Health and safety procedures: All students must wear masks during the class sessions and distance is obligatory between students

D- Honesty policy regarding cheating, plagiarism, misbehavior: penalty according to laws and legislations of the university

E- Grading policy: According to the policy and scaling intended by the university

F- Available university services that support achievement in the course: net connections for videos concerning the class materials

**25 References:**

A- Required book(s), assigned reading and audio-visualls:

**Main Reference:**

**Poultry Science, C. Scanes, B George, and M. Ensminger, 4<sup>th</sup> edition, 2004, Pearson Prentice Hall, USA**

B- Recommended books, materials, and media:

**1. Principles of Poultry Science, S.P. Rose, 1997, CAB International, Wallingford, UK**

**2. Poultry Production, R.E. Austic and M. C. Nesheim, 1990, Lea and Febiger, USA**

**3. Animal Nutrition Science, Gordon McL. Dryden, CABI organization, 2008**

**4. PowerPoint Lecture Notes**

**5. Internet websites for poultry production.**

**26 Additional information:**

None



مركز الاعتماد  
و ضمان الجودة  
ACCREDITATION & QUALITY ASSURANCE CENTER

Name of Course Coordinator: -Dr. Hana Zakaria-----Signature: ---Hana Zakaria----- Date:  
24/10/2021-----

Head of Curriculum Committee/Department: ----- Signature: -----

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Head of Department: ----- Signature: -----

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Head of Curriculum Committee/Faculty: ----- Signature: -----

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Dean: ----- Signature: -----